# ANALYSIS

The results were weighted to reduce bias by compensating for different patterns of nonresponse and to reflect the likelihood of sampling each student. The weight used for estimation was arrived at by the following formula: W=W2*W3*f1*f2*f3, where:

W1 equals the inverse of the probability of selecting the school;

W2 equals the inverse of the probability of selecting the classroom within the school;

f1 equals a school-level nonresponse adjustment factor calculated by school size category;

f2 equals a student level nonresponse adjustment factor calculated by class; and

f3 equals a poststratification adjustment factor calculated by gender within grade.

The weighting factor was then further proportioned so that the total weighted n was equal to the total unweighted n for purposes of tests of significance. The resulting weighted responses can be used to make important inferences about the prevalence of health-risk behavior of all Wisconsin public school students at each level. All analyses reported here use these weighted responses.

General prevalence rates of different factors are reported for students as a whole. Comparisons of important differences by gender and grade level are then conducted to identify important patterns. Cross-tabulations of the risk factors by demographic categories provided important comparisons. A chi-square or linear-by-linear statistic was computed for each cross-tabulation. In general, significance levels under $p=0.05$ are reported as significant differences and significance levels between $p=0.05$ and $p=0.10$ are reported as marginally significant. These significance levels should be treated with some caution, however, because the sampling method may cause these analyses to overestimate differences between demographic groups. Only statistically significant or marginally statistically significant differences are reported.

In addition, a comparison of the 1997 National YRBS[1] and 1999 Wisconsin YRBS was conducted. This analysis compared the responses to specific questions that appeared on both versions of the YRBS. Confidence intervals at the $p<0.05$ were compared to determine if significant differences exist. Only significant differences are reported. However, these comparisons should be treated with caution. By mixing year and source, any results produced by the analysis could reasonably be attributed to either state-national differences or to differences in time.

A trend analysis was also conducted. This analysis used responses to the 1993, 1997 and 1999 YRBS, which were combined into a single data set. The creation of this data set required that some variables be manipulated so that they were comparable across the samples. In addition, some survey questions were not asked in all years and so these data cannot be analyzed. Analysis of these data involved performing either Spearman's correlations[2] or odds ratios. Differences were reported if the Spearman's correlation obtained a $p<0.01$ value and the correlation itself was over 0.10. The odds ratio was reported if the 95% confidence interval significantly differed from 1.0. Again, the nature of the sampling procedure for the YRBS may cause these estimates of statistically significant differences to be exaggerated. Differences should be interpreted conservatively. Only significant or marginally significant differences are reported.

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[1] This was the latest national YRBS data available at the time of the analysis.

[2] Spearman's rho is a measure of association between rank orders.